

Architectural CONCRETE

Los Angeles Union Station

By C. L. A. BOCKEMOHL*

THE largest railway passenger terminal west of Chicago, and one of the most impressive structures of its type in the country, was opened for service this past summer in Los Angeles. Near the civic center, the new union station serves the Santa Fe, Southern Pacific and Union Pacific railways which had previously operated separate facilities at some distance from the heart of the city.

Except for steel rails, metal platform sheds, the thousands of cubic yards of earth fill under the elevated tracks, and several small auxiliary structures, the huge plant is built of reinforced concrete, the station itself being an architectural concrete structure set back from Alameda Street by a 200-ft. wide plaza.

The main station buildings which are dominated by a tall clock tower, comprise a spacious vestibule, concourse, waiting room and ticket office. Flanking this group are two arcades which front an office building to the north and left of the main entrance, and a restaurant at the right, or south. Total length of the main facade is 860 ft.

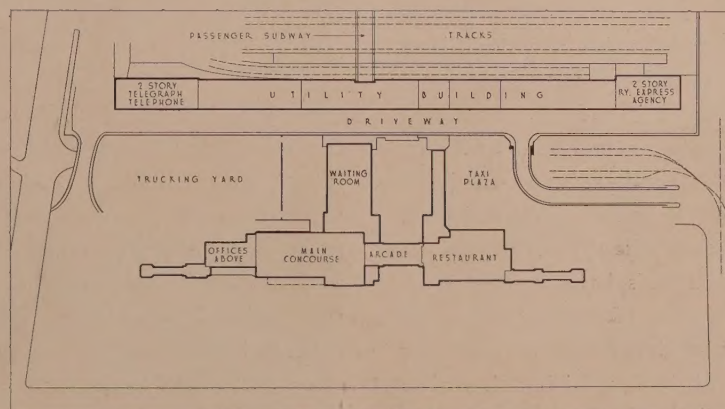
To the rear of the passenger buildings is a one-story reinforced concrete

utility building, 90 ft. wide by 1,227 ft. long at street grade level. A large part of the concrete slab roof of this structure which is at track level, provides trucking space for baggage, express and mail, and supports a shelter for these services. The extremities of the utility building are carried up to three stories for telegraph, express office and Pullman supply space.

The entire elevated track area is supported on three sides by several types of concrete retaining walls.

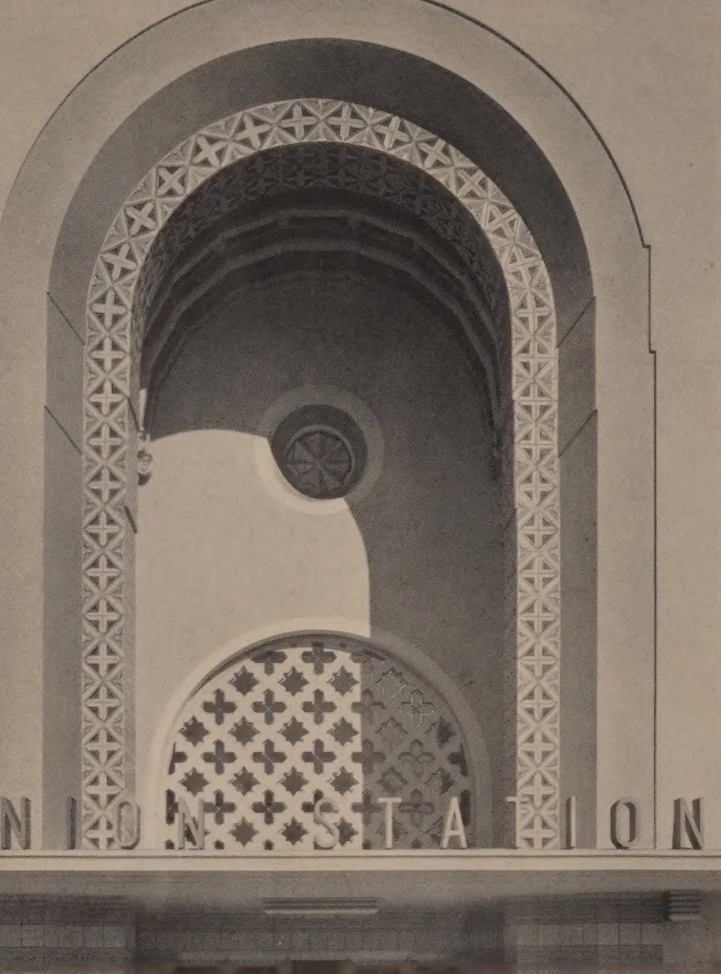
The architecture of the main station group is modified Mediterranean with a decided Spanish Mission influence. It distinctly reflects the architecture of old Spain with its tiled roofs, massive forms and simplicity of line and color. It is that elusive and indefinable type of architecture that we choose to call "Southern Californian".

A modernization of this style was necessary to suit the great bulk of the structure and its use as a railroad station. Yet this has been so skilfully handled that one cannot readily detect the modernization, for within the great spaces of the vestibule, waiting room and concourse—with their decorated, beamed and trussed



Plan layout of the station and auxiliary buildings.

*Structural Engineer.



A great arch forming a deep reveal rises above the main entrance. At the lower part of the reveal is a concrete grille, cast in place with plaster waste molds.

ceilings, soft wall treatment and brilliant wainscots—the telephone, electric lights, public address system and other modern materials and equipment, are not evident. It is a pleasing streamline picture of old Spain.

To accomplish these results presented some interesting problems. Ordinary form construction with its telltale board markings would have destroyed the illusion. Perfectly smooth-formed walls would not have been appropriate either. Soft textured surfaces, free from both form lines and modern precision smoothness, were desired and were successfully produced by lining the forms with rough-surfaced Celotex. Particular attention was paid to mitering this material at exposed corners and laying out the joints and stops in accordance with a carefully-developed plan. The result makes one conscious of the appearance and not of the modern materials and methods that brought it about.

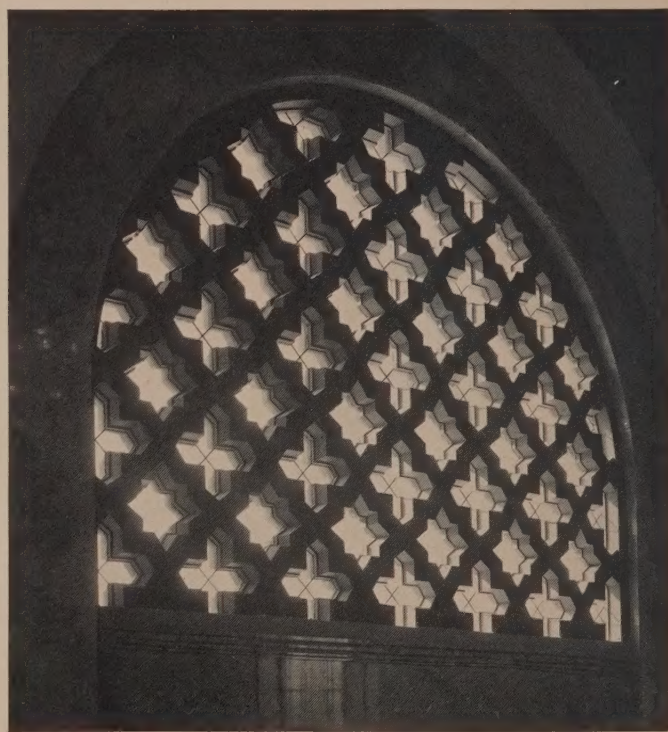
It was found in using Celotex as a form liner that it was necessary to use plywood as backing. Boards were tried for backing but an impression of the board joints showed in the concrete surface. Application of the Celotex to the backing requires care. The edges of sheet were butted together,

making a snug fit but should not be jammed tight. Four-penny box nails are used and are spaced 6 to 8 in. apart and $\frac{1}{2}$ in. from the edge. The nail heads must be driven just flush to avoid a blemish in the finished surface.

Boiled linseed oil brushed on the Celotex was found to be the best treatment. Just enough oil is used to cover the surface evenly, including all edges, and the sheets are then left in a horizontal position for 12 hours to allow the oil to penetrate. Thirty-six hours should elapse between oiling and contact with concrete to permit the oil to dry on the Celotex.

When the Celotex is in the forms and before the concrete is placed it must be protected from rain and sun to maintain the moisture content as nearly uniform as possible.

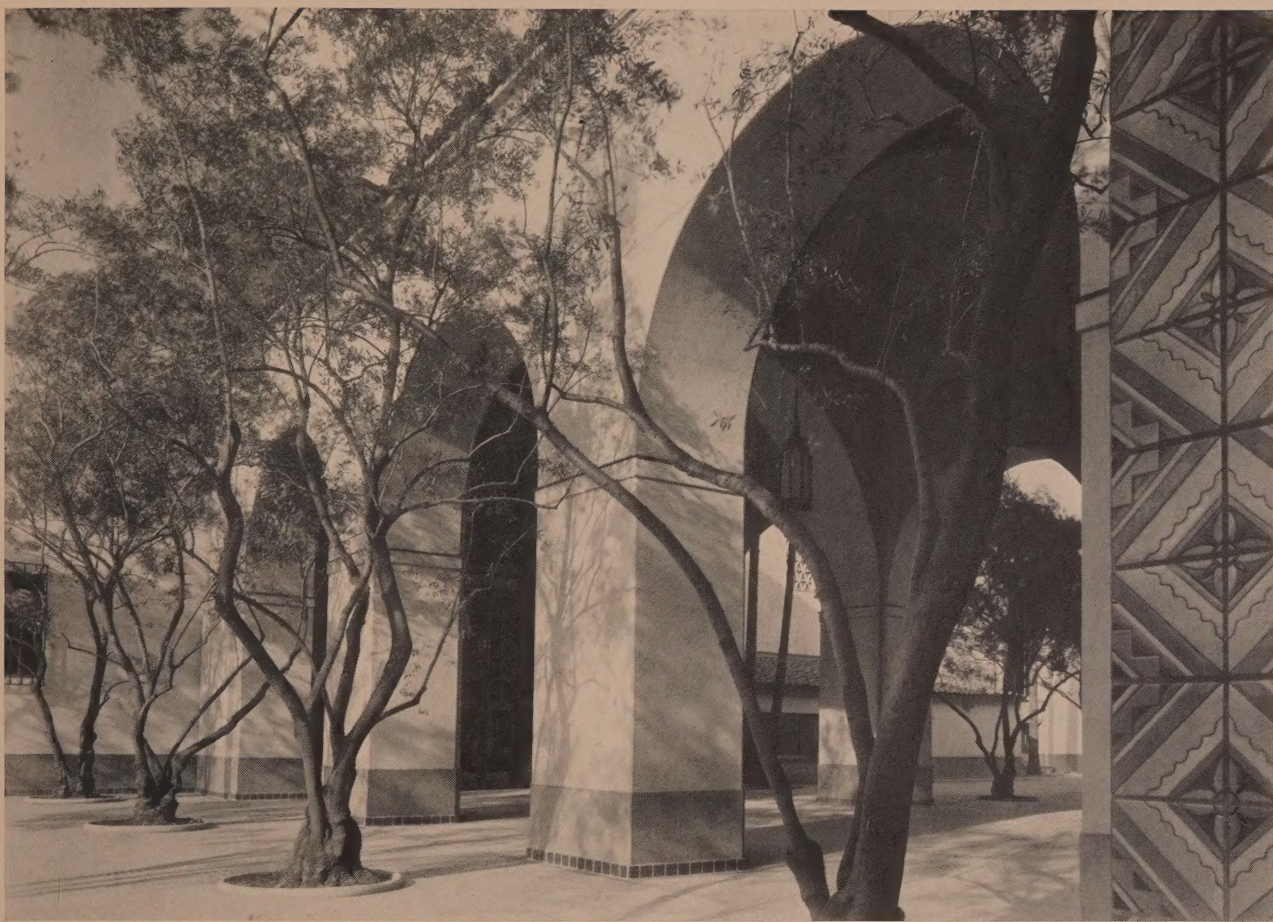
As the forms were stripped, any Celotex panels which did not come away readily were left in place for further drying



From the inside, the amber glazing of the grille presents a colorful pattern.

when, as a rule, they could be removed without difficulty. Patches of fiber that adhered to the concrete were removed better with fiber brushes than with wire brushes.

The main arcade, connecting link between the station proper and the restaurant, consists of massive piers and anchors made hollow to reduce the horizontal force due to earthquakes. Here again concrete is used for the decorative detail in beams, panels, molds and corbels. The afternoon sun patterns itself in the main vestibule through the star and cross design of a huge concrete grille over the main entrance. This grille was cast in place by means of a large

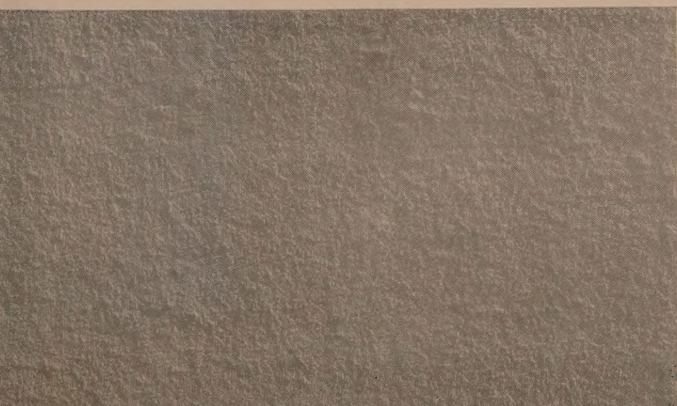


This arcade opens into the patio, an open air waiting room to the right of the main waiting room. The whole layout is planted with beautiful native trees and shrubs.

plaster waste mold into which the bronze stops for the glazing were carefully placed. Leaded amber glass was then fitted to the stops after the concrete was placed.

The train concourse is paved with brightly colored Spanish tile, a concrete tile with integral color made in hydraulic presses after the method practiced years ago in Spain and Mexico. The passenger subway leading to the trains is a patterned carpet of brightly colored concrete, the color obtained by pigmented cement and specially selected sand. Integrally hardened and filled, this surface improves and polishes with age.

A "soft" texture was produced by using Celotex for wall form lining.

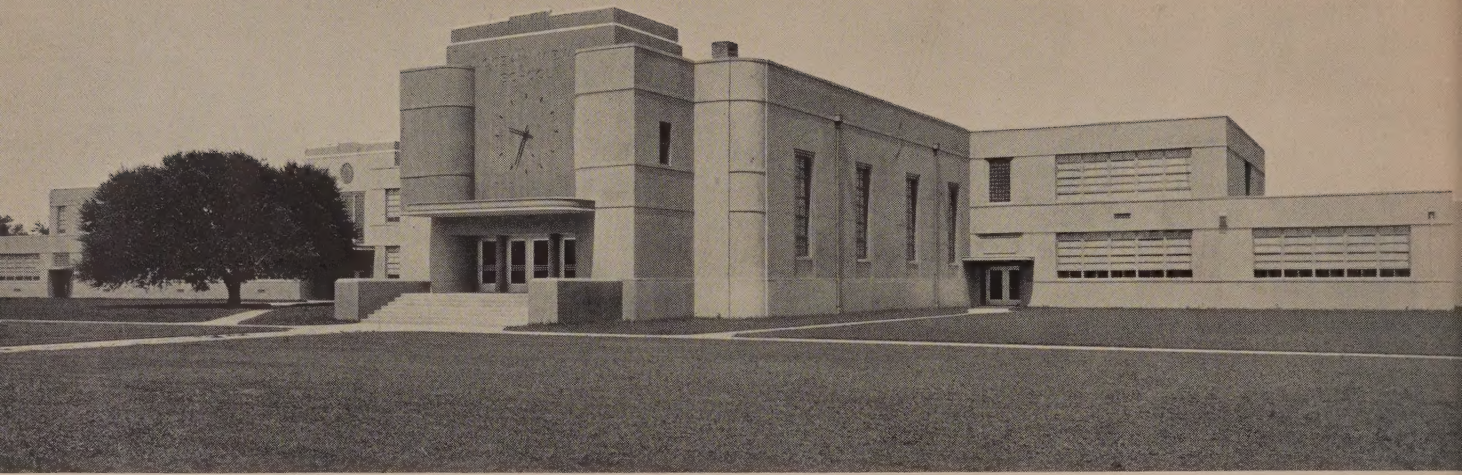


In the south patio and the front landscaped areas are massive concrete illumination pylons supporting large, funnel-shaped, indirect light reflectors, that give an almost exposition type of lighting. They serve as a carefully thought out connecting link between the building with its old traditions and the present time.

The entire 75-acre plant, including two unusually wide rigid frame concrete grade separations, was erected at a cost of \$11,000,000, borne proportionally by the three rail lines which use the facilities.

Architectural design was directed by a committee comprising Donald Parkinson, consulting architect, and H. L. Gilman, architect of the Santa Fe; J. H. Christie, architect of the Southern Pacific; and R. J. Wirth, architect of the Union Pacific. All drawings were made by the terminal organization.

General contractor was Robert E. McKee, and coordination of contractors and subcontractors, of which there were more than 150, was handled by A. J. Barclay, construction engineer and S. V. Meigs, assistant construction engineer. The writer was in charge of structural design.



Ocean View Elementary School, Norfolk, Va., is T-shaped, with the academic department in the long bar and the auditorium projecting forward toward the street. Vernon A. Moore & Associates, architects; Doyle & Russell, contractor.

School for Norfolk, Va.

BY VERNON A. MOORE*

AT the outset, use of architectural concrete was not even remotely considered as a construction medium for the new Ocean View Elementary School at Norfolk, Va. As originally planned the projected building was to be a 12-classroom, lunch room and auditorium addition to an existing 18-room brick and frame structure. The addition was to be erected on an adjacent site, but not physically connected to the old structure since it was realized that the existing school was outmoded. However, monetary considerations at the time dictated the use of the old building as long as possible, even though the resulting educational plant would be more or less of a makeshift. On this basis application was made for a PWA grant.

After the application was returned approved, it was real-

ized more than ever that the projected structure was a makeshift, and there were numerous evidences that the old structure constituted a potential, serious fire hazard. The building was, therefore, condemned as unfit for continued use, and it was decided to start from scratch by planning a new school plant, complete in one unit. A new site was selected and the architects were instructed to proceed.

Condemnation of the old building as a fire hazard made such an impression on the school board and city authorities that the firesafe qualities of any new structure contemplated assumed first importance in selection of materials. A concrete building was proposed as the ideal solution, but initial thought was that the cost of such a structure would be prohibitive. It was believed that a semifiresafe structure would be cheaper, particularly since the project had grown far beyond original limits. The fact that there were no existing structures of the type contemplated in architectural concrete in the locality, made it exceedingly difficult for school board members to visualize a building of concrete without introduction of other materials for exterior ornamentation. A concrete structure reminded them of loft buildings, cold storage plants, and other structures in which, until recently, no pretence has been made to use concrete architecturally in this locality. Discussion of relative merits of Class A and Class B construction, and consequent differences in insurance premiums, however, resulted in a decision to get comparative costs.

*Vernon A. Moore & Associates, architects.

Well-lighted school library also serves as branch of Norfolk Public Library.



Symposium on West School— Jefferson City, Mo.

EDITOR'S NOTE: Construction and one year's use of Missouri's first architectural concrete school have turned out to be so satisfactory, and to some such a pleasant surprise, that we have asked three people closely connected with the design and erection of West Elementary School, Jefferson City, to write their impressions of the new building.

Medium for Design

BY ALBERT S. OWEN, A.I.A.*

SOME thirty years ago our firm designed one of the first concrete frame school buildings erected in this section of the country. This building was one of the vanguard of the successful uses of concrete as a structural material.

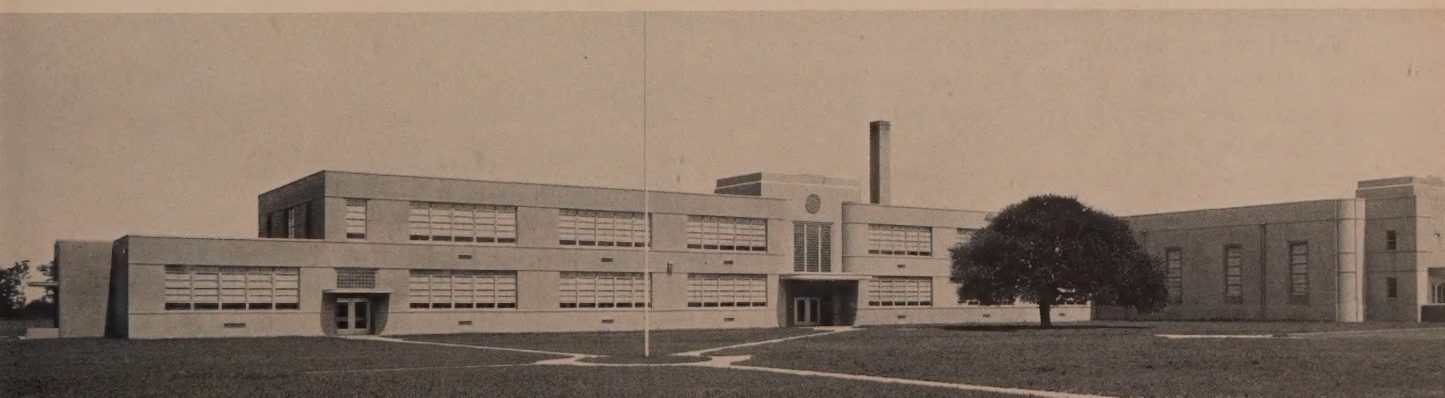
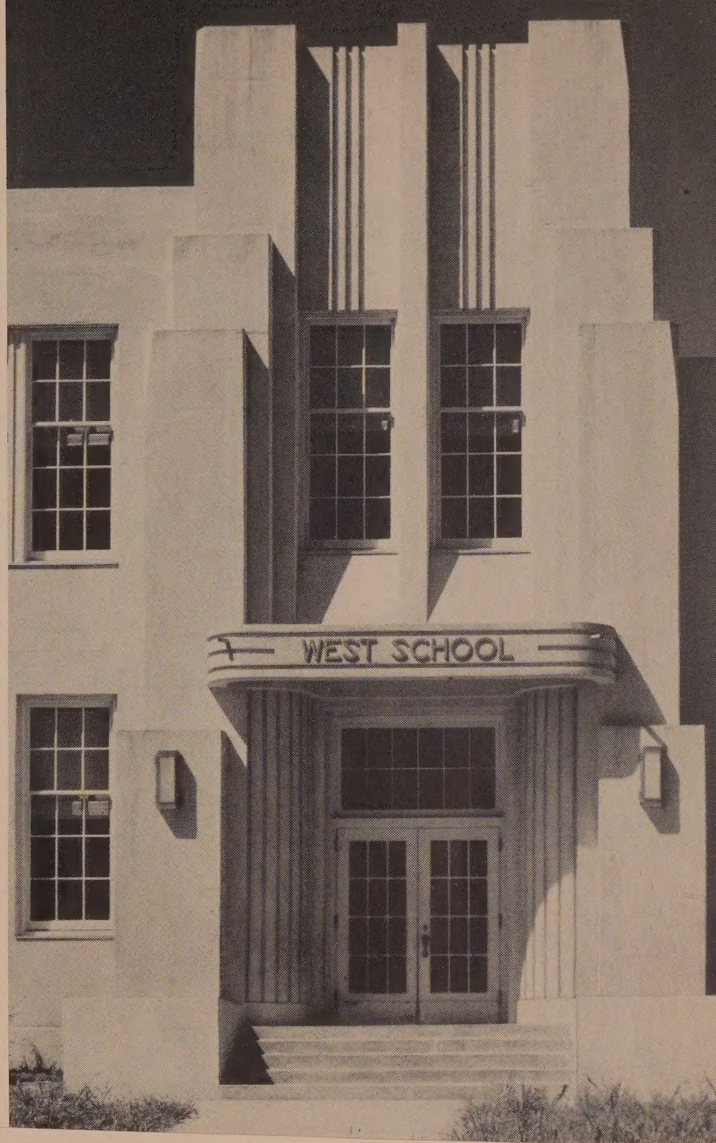
Today we have pioneered again, for in the past year and a half we have designed and watched the successful completion of the first architectural concrete school building in the state of Missouri. Many changes have come to concrete

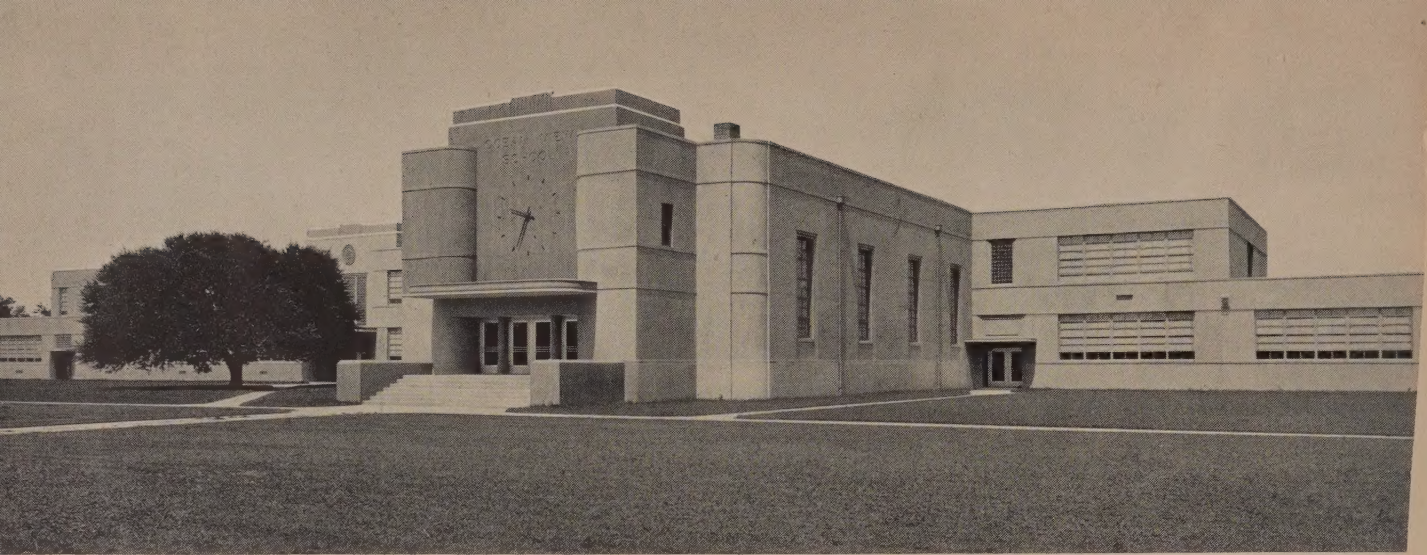
Although time was limited in which to prepare drawings, and the absence of similar construction made it difficult to form a yardstick for comparison, preliminary costs surprisingly revealed that completely firesafe architectural concrete was but very slightly higher than semifiresafe construction. Upon this evidence and realization of additional advantages of concrete, it was decided to proceed with the architectural concrete structure. The architects were instructed to design the building in the most economical manner compatible with the material, and were told that the finished product in appearance, was "up to them".

The design was dictated largely by the shape of the building since the lunch room and auditorium were to be so arranged as to be available for community use, and the school library was to be designed for dual service as a branch of the Public Library.

As finally developed, the plan is a modified T-shape with classrooms in the long leg of the T, lunch room at the north end, library at the south end fronting the street, and the auditorium projecting eastward to the street. There are 22 classrooms, domestic science and manual training rooms, bicycle room, offices and conference rooms in addition to

General view from left shows 2-story classroom unit and auditorium at right which is available for public use. Library entrance is at left.





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the library. The lunch room accommodating 350 and the auditorium seating 600, can be shut off from the school proper by means of rolling steel grilles in the corridors. Provision was made for future addition of four classrooms over the library and lunch room.

Rigid economy dictated the structural design in a number of ways. Exterior walls are 12 in. thick except under the windows where the thickness is reduced to 8 in. The second floor and roof are slab and beam construction, and the first floor slab is on compacted sand fill. The auditorium is built with exposed rigid concrete bents of 54-ft. span.

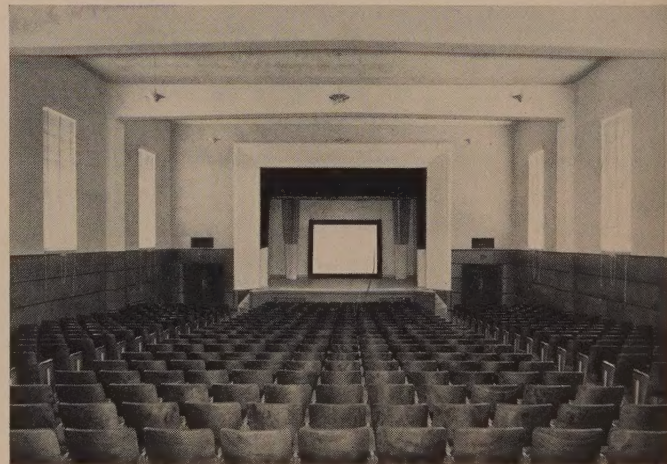
Because of close proximity of the seacoast and climatic conditions in Norfolk, 2-in. furring tile above a 4-ft. 6-in. glazed block wainscot was used on the outer walls to prevent condensation. Interior finish is plaster above the wainscot.

Ceilings are exposed concrete beams and slabs painted, except in the library and auditorium where, for sound control, acoustical material was placed in the forms, bonded to the concrete, and later spray painted. Corridor ceilings are

ized more than ever that the projected structure was a makeshift, and there were numerous evidences that the old structure constituted a potential, serious fire hazard. The building was, therefore, condemned as unfit for continued use, and it was decided to start from scratch by planning a new school plant, complete in one unit. A new site was selected and the architects were instructed to proceed.

The contractor was Doyle & Russell, Richmond, Va.

Rigid frame bents of 54-ft. span support the auditorium roof.



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Today we have pioneered again, for in the past year and a half we have designed and watched the successful completion of the first architectural concrete school building in the state of Missouri. Many changes have come to concrete since we first worked with it, and not the least of these is its wide acceptance by architects, builders and public, as a desirable material for architectural work. This has been brought about by increased knowledge of the functions of each of the ingredients of concrete, by improved methods of placing, and the development of craftsmanship in construction which produce a finished product of character and having the necessary attributes of durability and beauty required of an architectural material.

West Elementary School in Jefferson City, Mo., was one of two ward school buildings our firm designed in 1937. Since tradition and habit are difficult to cast aside rapidly, only one of these schools was erected in concrete while the other was built with conventional masonry that has characterized all such construction in this region heretofore.

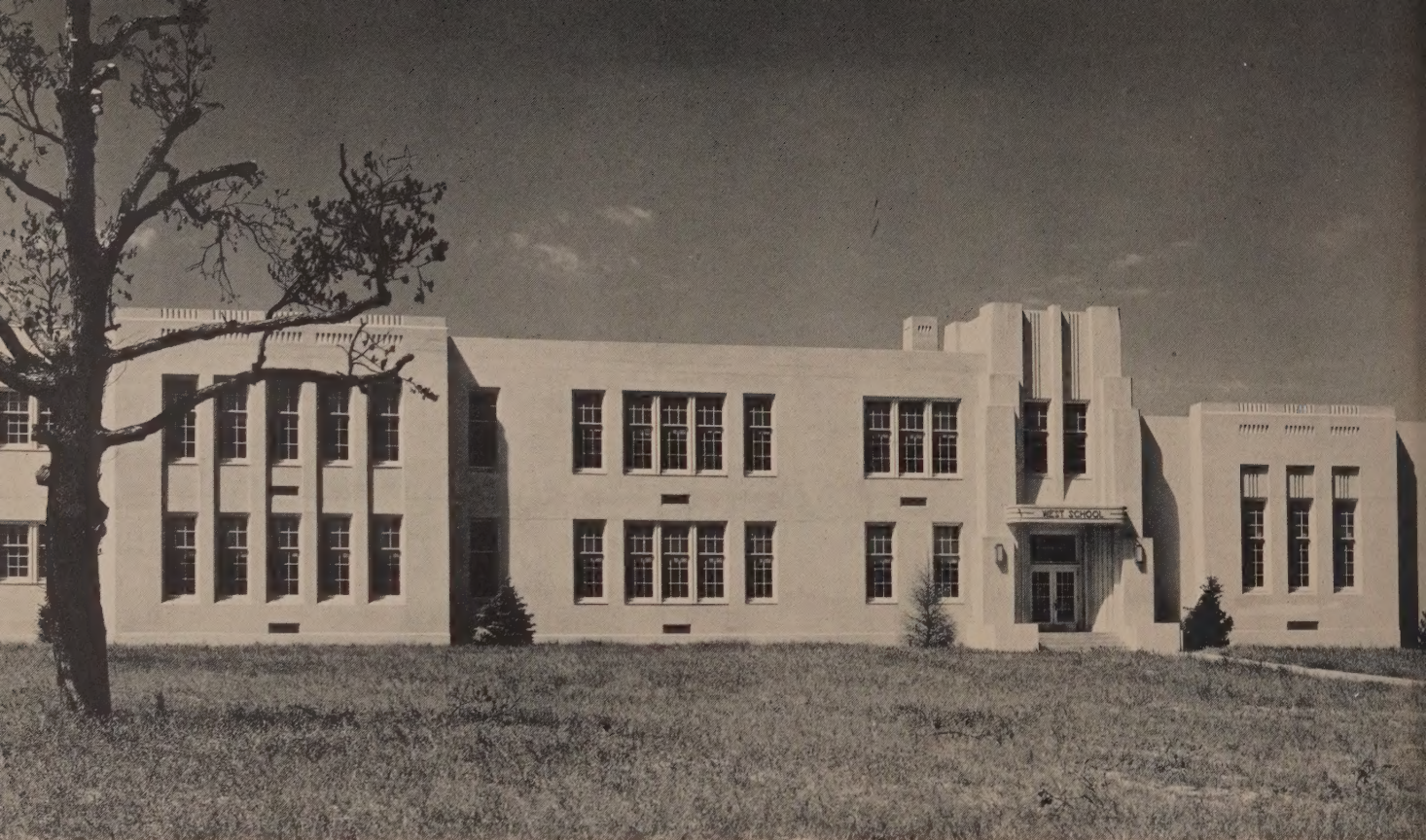
We instructed our engineer, Walter M. Huff, to follow best standards of practice for architectural concrete, and as a result, after a year since completion, there is not the slightest evidence of objectionable developments. The building has been subjected to a wide range of temperatures.

*Saylor & Owen, architects, Kansas City, Mo.



West Elementary School, Jefferson City, Mo., first architectural concrete school in the state. This modern design was made by Saylor & Owen, architects of Kansas City, Mo. E. C. Childers Construction Co., Kansas City, Mo., was the contractor.

An excellent opportunity was afforded by the two schools built in Jefferson City at the same time to study two types of construction. After our experience we are convinced that a new, interesting type of school architecture has come and an old material used in a new way is available with which to give it form. Light colored masses and simple rhythmic lines give West School an inviting appearance and anything but the formidable look often associated with school in the child's mind. With concrete it was possible to produce chaste but interesting effects at comparatively low cost. It would have cost but little more to embellish the building with ornament if the design had called for such treatment.



Architectural detail appropriate to the design was limited to simple molded devices that added nothing to the cost of the building.

Selecting the Material

BY MRS. W. C. IRWIN*

EARLY in 1937 the citizens of Jefferson City voted a bond issue to provide two new ward school buildings, an addition to the Junior High School, and an athletic field and stadium.

The school board decided that it would not follow the familiar practice of merely replacing the old, but would give due consideration to the growing needs of the city, and to the newest and best in school facilities. We knew of the progress from the Little Red Schoolhouse to modern, efficient buildings, but we were determined to make our own study before embarking on a building program. This study revealed, among other things, that we did not have nearly as much money as we needed. It was necessary, therefore, to get the most for every dollar expended.

At this time the possibility of using architectural concrete was suggested and discussed. We presented the suggestion to our architect and engineer, both of whom we had known well for years, and in whom we had complete confidence. They both gave a favorable report on the value of concrete; but from several outside sources we were told that the cost would be prohibitive. It was quite clear, then, that

*President, Jefferson City School Board.

we should have to find out for ourselves.

We formed an inspection party and visited the new Edward L. Bailey School at Jackson, Miss., which is constructed of architectural concrete. (ARCHITECTURAL CONCRETE, Vol. 3, No. 3.) That visit, together with a thorough explanation of the building by the architect who designed it, was enough to satisfy us that a school of this type was desirable for Jefferson City. There was still, however, the problem of getting a contract within our budget. When bids were returned, we were pleasantly surprised to find that the low bid on concrete was the same figure as that presented for a similar building of the old type masonry used before in our city.

We at once awarded the contract. There was some criticism of the action of the board for "undertaking construction of a new type of building". But I, for one, and other board members, had seen for ourselves and had heard the opinions of men whose judgment we were willing to accept.

Now that the building is not only completed, but has been in use for a year, the favorable remarks of local people as well as hundreds of visitors, have justified our action. It is conceded to be the most beautiful and outstanding building in our school system.

Those of us who had a part in this building program now have an intense feeling of satisfaction in realizing that the new school is designed to give the utmost in fire protection,

and is the cheapest insurance possible against the loss of precious lives and property in the event of an unexpected hazard such as a tornado or earthquake.

With all our plans now a reality, I want to express myself as of firm belief that we have made a long step in the advancement of school work, and that this monumental structure will speak for the actions of the school board for many years to come.

Good Work Is Economical

By E. C. CHILDERS*

TWO years ago I would never have believed that better craftsmanship in construction would produce buildings at lower cost. But that is the case when working with architectural concrete.

With 25 years' experience in "pouring" concrete for foundations and rough walls, I anticipated, when figuring on an architectural concrete job, that refinements in procedure and added efforts to produce pleasing exposed surfaces and sharp detail would greatly increase the cost. Experience with my first architectural concrete job, the West Elementary School in Jefferson City, proved I was only partly right: it was necessary to abandon old methods, but once best practice had been established and adopted for producing exposed concrete, the cost was surprisingly less than expected.

One experience will illustrate the difference between new and old methods and why the new actually saves money in the end. Structural concrete forms often have rather ill-fitting joints through which water from the concrete escapes.

*E. C. Childers Construction Co.

While this may result in rough corners and some stone pockets, such leakage has never been considered serious and in one sense was beneficial since the water did not accumulate toward the top of the form.

With watertight forms, which are absolutely essential for architectural concrete, if the concrete is too "wet" the water cannot get away so it rises to the top, causing sand streaks and a rough surface. The solution is to reduce excess water or to prevent bleeding up through the concrete as it is placed. Here application of modern technique for concrete making solved the problem.

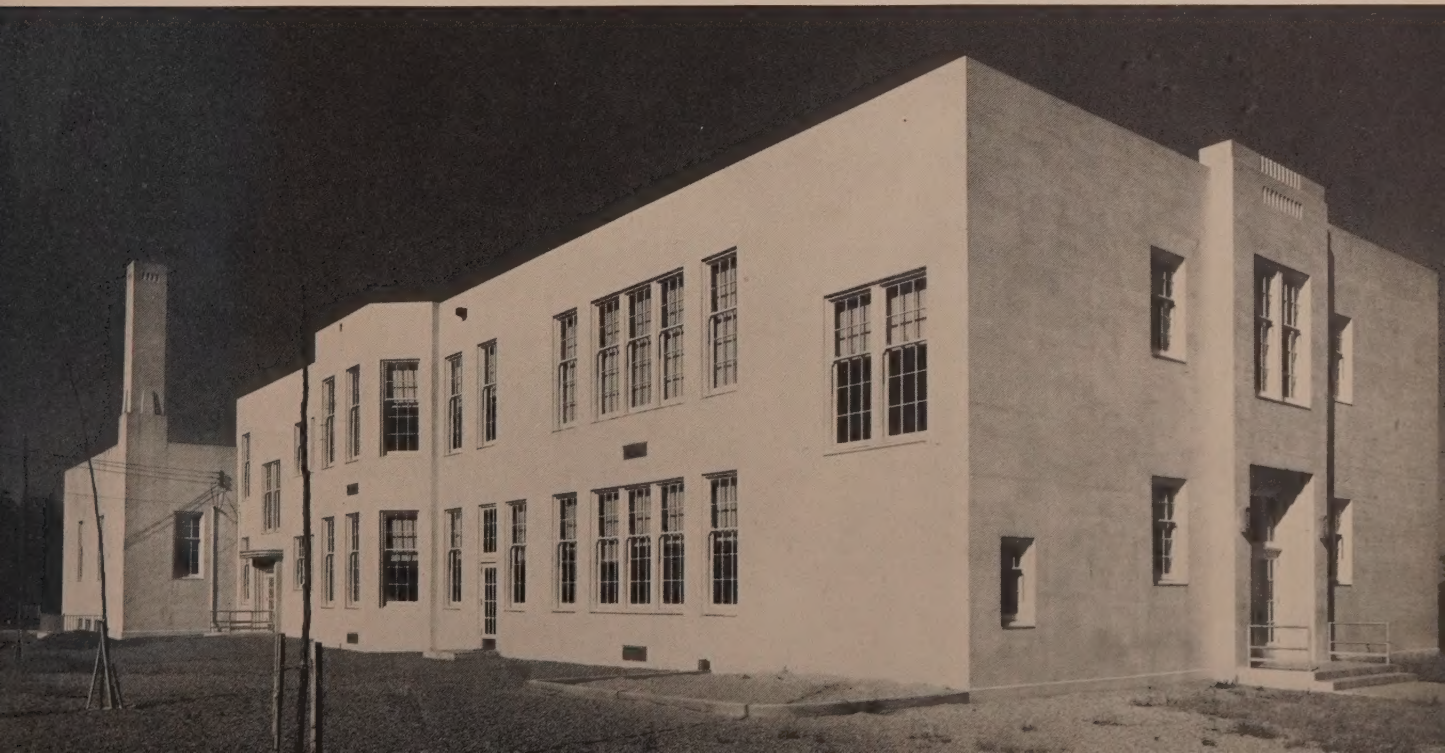
In the majority of cases, merely reducing water in a mix without adjusting the other ingredients is not advisable. To do so may produce an unworkable mix that is costly to place. By studying the job materials it is possible, by juggling the proportions of the aggregates, to design a mix that flows freely without separating and without losing water.

When we discovered this, placing became easier and corners and other details were cleaner and sharper because the concrete didn't bleed. With assurance that our methods were producing good results, the work naturally proceeded at a faster rate. When it came to figuring cost per yard, this carefully designed concrete was less for both materials and handling than we had experienced under previous hit and miss methods.

We have found that when the same care is applied to all phases of concrete work—building forms, stripping them, cleaning and finishing the walls—the economies multiply.

I now apply these methods to structural as well as architectural concrete for it has been demonstrated that the best practice and finest craftsmanship mean less cost to the contractor and a better job for the owner.

Grouping of masses and arrangement of windows relieve plain wall areas of side and rear walls.





Snow-capped mountains are reflected in the windows of beautiful, new Baranof Hotel at Juneau, Alaska. Increased commerce, and growing tourist business made more spacious and comfortable accommodations necessary, so local business men financed the new concrete building. Donald N. McDonald, of Seattle, was architect, and A. W. Quist Co., the contractor.

Baranof Hotel, Juneau, Alaska

BY DONALD N. McDONALD, ARCHITECT

JUNEAU, capital city of Alaska, is located at the base of beautiful, majestic mountains rising abruptly from Gastineau Channel. The surrounding area is rich in fish and animal life for the sportsman. Business and commercial activities equal to those of cities three or four times its size, are carried on within its limits. These lures to adventure and commerce long ago pointed to the need of a hotel that

for this. It is a tower, taller than the new building, with its plain surfaces relieved by vertical rustications surrounding a 3-story panel of continuous glass block. By painting the older building with the same cream colored portland cement paint that was applied to the annex, the two buildings now appear as one entirely new structure.

There is one distinct structural difference between the buildings, and the change is for the better. Whereas the old building has wood floors and frame roof, the new has concrete slab floors and roof, a distinct advantage in firesafety and maintenance.

The annex is 50x140 ft. in plan with a 34x39 ft. setback. Height from ground level to top of parapet is 47 ft. The combined structures now front for an entire city block on Tuam St., bounded by Main and Fannin Sts.

Except for the pilasters, the walls are 8 in. thick, formed against vertical panels of Presdwood-lined, 1x6 shi lap forms. Vertical studs of 2x4's arranged vertically on 16-in. centers, and 2x6-in. double wales on 3½-ft. centers horizontally, kept the panels perfectly lined for smooth surfaces. All ornamental detail was accomplished by means of milled wood molds. There was no plaster mold work required by the design.

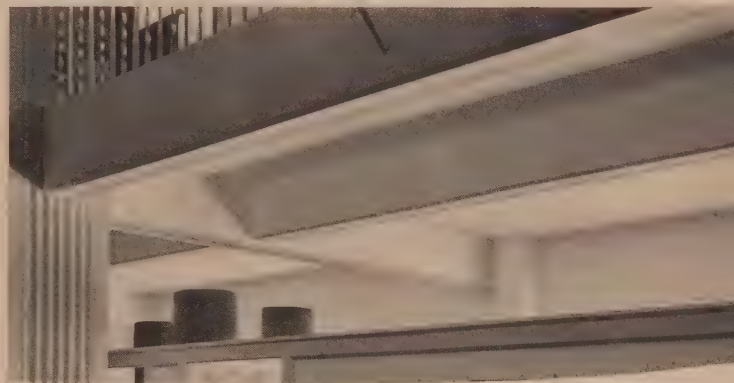
By using lined forms for all interior beams, columns and slabs, plaster was entirely eliminated. Surfaces were so smoothly formed that painting only was required for the finish.

Floor and roof slabs designed for 75 p.s.f. live load, are generally 5½ in. thick on beams, and square columns range in size from 12 to 18 in. Typical interior finishing was done

and superstructure. Water-cement ratio did not exceed 7 gal. which resulted in materially higher strength than specified. Upon delivery to the job, concrete was conveyed to point of placement in buggies. Internal vibration was used for both walls and floors with excellent results.

After forms were removed, exterior wall surfaces were rubbed with carborundum stone. The finish treatment was two coats of a cream-colored portland cement base paint applied with stiff bristle brushes. The older building was painted at the same time.

The Tellepsen Construction Co., Houston contractor, completed the work between October 15, 1938 and April 15 of this year. Engineering plans were prepared by Robert J. Cummins, also of Houston. A most pleasant feature was that the cost of the project, including electrical and elevator contracts, was somewhat lower than the architect's estimates. The total cost was \$78,061 or 20.2 cents per cu.ft.



by A. W. Quist Co., contractor.

A typical room in the new hotel brings big city comfort to the Far North.



The arrow points to Baranof Hotel in a setting which explains why hundreds of people want to visit Juneau every year.



with the older building, similar detail was used in more simplified forms. Lamar Q. Cato, architect; Tellepsen Construction Co., contractor.

Suniland Builds Annex—In Concrete

BY LAMAR Q. CATO, ARCHITECT

WHEN the Suniland Furniture Co. of Houston, Texas, decided to enlarge the facilities of their successful retail store last year, very few serious problems in design were presented to the architect. In the first place, the company had been operating for some years in an architectural concrete building, and the new structure was to be built adjacent to and connected with it. The older building was of simple, modern design, with fluted pilasters the main decorative detail. The only other ornamental fea-

ture was a series of recessed molded plaques in the coping above each pilaster. These could be omitted from the design of the new building without disturbing the harmony of the new with the old.

The main problem was to effect a transition between the two buildings for there was some need to modulate from the vertical form texture of the older 3-story structure to the smooth, Presdwood-formed surfaces of the 4-story annex. The main entrance motif presented a splendid opportunity

for this. It is a tower, taller than the new building, with its plain surfaces relieved by vertical rustications surrounding a 3-story panel of continuous glass block. By painting the older building with the same cream colored portland cement paint that was applied to the annex, the two buildings now appear as one entirely new structure.

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By using lined forms for all interior beams, columns and slabs, plaster was entirely eliminated. Surfaces were so smoothly formed that painting only was required for the finish.

Floor and roof slabs designed for 75 p.s.f. live load, are generally 5½ in. thick on beams, and square columns range in size from 12 to 18 in. Typical interior footings were 6x6 ft., founded on soil having a bearing value of 3,100 p.s.f.

Concrete, furnished by Horton & Horton Ready Mix Co., was based on two specifications: 3,000 lb. at 28 days for footings and foundations, and 2,500-lb. concrete for walls

and superstructure. Water-cement ratio did not exceed 7 gal. which resulted in materially higher strength than specified. Upon delivery to the job, concrete was conveyed to point of placement in buggies. Internal vibration was used for both walls and floors with excellent results.

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The new building has concrete floors with beams and slabs exposed in the ceilings. The entire interior is finished by painting directly on the concrete.



Transition from old building (left) to the new at right was made by a tower entrance motif with vertical rustications and a 3-story glass brick panel. Note that detail above fluted pilasters is omitted on new building.



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ARCHITECT • ENGINEER • CONTRACTOR

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*Sixty-five years ago William Mooser I, San Francisco architect, designed the first buildings in the Aquatic Park district. William Mooser II, designed other buildings nearby as late as 10 years ago. Now Moosers II and III have finished a family project by designing and supervising the fine concrete buildings in Aquatic Park this past year.

In Last Issue

El Monte School District is in LOS ANGELES COUNTY, CALIF., and not SAN BERNARDINO COUNTY . . . We're sorry for the error.

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Quality Concrete—for War and Better

No matter how distasteful, barbaric, or foolish war has ever been, it has always taught some lessons of value. It has been the proving grounds for science. With large scale operations and extravagant expenditures it has put all manner of theories, inventions, practices and materials to test. The good accruing from this is probably the only salvage from wars that have never brought peace nor prosperity to anyone for very long.

Early in September this year two great armies were preparing for battle behind huge concrete fortresses along the boundary of France and Germany. If the performance of the Maginot and Siegfried fortresses lives up to vaunted claims, we may watch through dragging months of a long war, the fantastic spectacle of "irresistible forces confronting immovable objects". But what interests us here is not the possibility of a grand impasse on the western front, but a little by-product of the last Great War—a thorough test of quality concrete.

When the engineers of the Maginot Line started their work in 1929, they were in agreement that good concrete stands up to high explosives remarkably well, while poor concrete is quickly ground to powder by big shells. They had investigated the forts at Liege, Namur and Antwerp, where poor concrete was blamed for their weak resistance in 1914, and the forts at Verdun, particularly Douaumont, which withstood 120,000 high caliber German and French shells in four different sieges. The difference, these engineers said, was in the quality of the concrete.

Before designing the concrete for the new line of forts, many mixes and many specimen slabs were studied. They were subjected not only to laboratory tests that we know, but to short range fire up to 20-in. caliber. When they achieved a quality concrete of a desired thickness which would withstand three projectiles at the same point of impact, they were satisfied.

In America still at peace, we do not expect concrete to do as much as this. But it is comforting to know that our technicians and builders today are designing the same quality concrete to withstand the unintentional, but hardly less severe, destructive forces of fire, flood, storm and earthquake.



New School for Bridgeport, Wash.

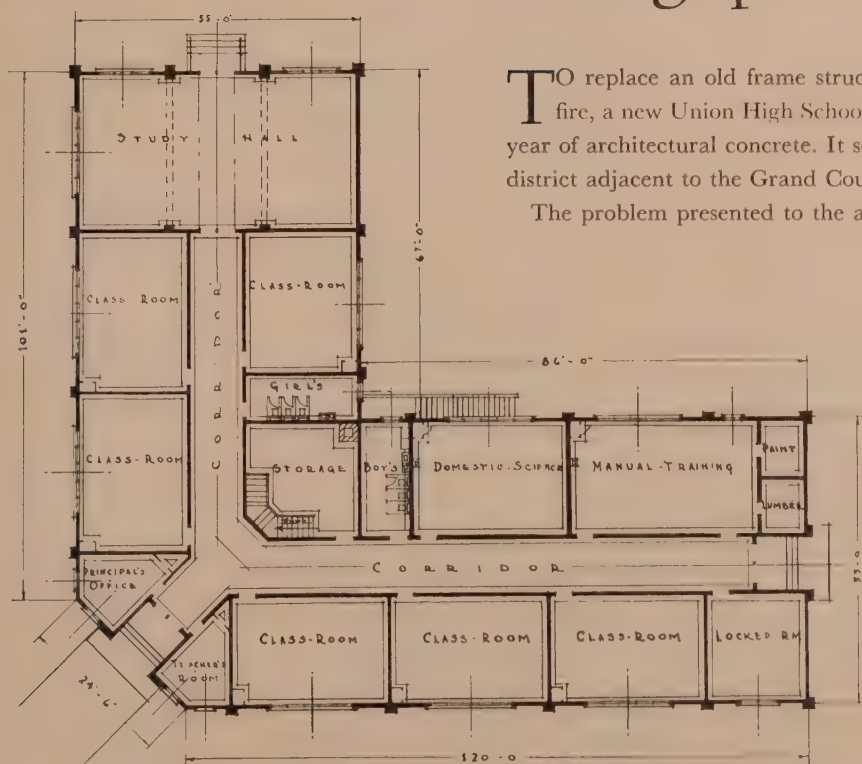
TO replace an old frame structure that was completely destroyed by fire, a new Union High School for Bridgeport, Wash., was erected last year of architectural concrete. It serves widely scattered communities in a district adjacent to the Grand Coulee dam development.

The problem presented to the architect was one of securing the largest

possible building for the least amount of money in first cost and maintenance. The design was, therefore, made as simple as possible both in plan and exterior treatment.

An interesting feature of the construction was the use of control joints at all pilasters.

Designed by L. Solberg, architect, of Wenatchee, Wash., it was constructed by Ernest Hulbert, contractor, of Omark, Wash. Work started in midwinter and was completed in July. The total cost was \$42,507 or \$3.72 a sq.ft.





A new band shell at Reading, Pa., dedicated to that city's famous Volunteer Fire Department, is located in a natural amphitheater in City Park. Built of architectural concrete, it was designed by Wm. H. Dechant & Sons, architects and engineers; H. T. Horst Construction Co., was the contractor.

Music for Reading, Pa.

BY MILES DECHANT, A.I.A.*

READING'S new music pavilion occupies the site of an old wooden bandstand which had stood at the edge of a lily pool in City Park for many years. It is an ideal location with a long, sloping hill rising from the opposite edge of the pool to provide a natural amphitheater with walls of tall trees. Aside from the requirement that the band shell be erected at this site, there was another restriction set up at the time the structure was approved by the sponsors and PWA—it was to cost no more than \$40,000.

Problems confronting the architect were quite clear: to design a structure appropriate to the wooded setting as

*Wm. H. Dechant & Sons, architects and engineers.

large and efficient in arrangement as possible, and for a price within the \$40,000 limit.

Architectural concrete at once suggested itself as the medium of construction. It is the natural material for modern band shells of the wide arch and cone type which suited this particular site so well. The economies of this type of construction seemed to offer greater advantages in size and number of facilities and elaboration of detail than could be achieved with any other material at equal cost. Furthermore, concrete offered greater possibilities in design.

From water's edge to the top of the great arch, the design presents a series of transitions from the rough work of nature

to the smoothness and perfection of the skilled work of man. Accordingly, from water level to about 4 ft. above the lower stage, foundations and retaining walls are faced with rough stone masonry capped with concrete. Above this to the level of the orchestra stage, the walls were formed against rough boards and coursed with deep horizontal rustications. From this point upward, portions of the building on both sides of the stage and the great arch were formed against smooth plywood. The cone is gunitite on a frame of steel.



Of modern cone and arch design, the band shell is located on a lily pool. The cost of \$35,000 was \$5,000 less than the limit set by the appropriation.

Lower stage walls are native stone. Above the lower stage and up to the orchestral stage the walls were cast against board forms, while the arch and stage rooms are smooth-formed with plywood.

The stage lies within the space permitted by the span of the arch ring which, at the soffit, is a semicircle of 45 ft. diameter. The slope of the cone, for best acoustical effects in view of the rising slope of the amphitheater, is 50 deg.

Space is provided for a large orchestra or choral group on the main stage which is illuminated by lights concealed in a trough behind the arch ring. There is additional space on the lower stage which might be used for pageantry. A door at the rear of the stage opens into dressing rooms and other quarters for performers. A basement under the structure provides needed comfort facilities for the park at all times.

Several concerts during the past summer following completion of the band shell have proved the structure most satisfactory as to size, arrangement and acoustical properties. The fact that audiences of 20,000 to 30,000 have thronged the wooded amphitheater on these occasions, attests the public's appreciation for the band shell and the improved musical programs it affords. It is an eminently successful public works project.

The band shell is dedicated to the Volunteer Fire Department of Reading whose 16 companies and many thousands of fire fighters have served the city for 166 years.

A most interesting side-light of the project is this: although the structure was designed with the \$40,000 cost limit well in mind, the low bid was less than \$35,000. Construction work done by H. T. Horst Construction Co., of Reading, reveals careful craftsmanship and rigid adherence to the plans and specifications.

Enthusiastic and unanimous approval of the completed band shell on the part of the Reading City Council has been expressed by Howard McDonough, commissioner of parks and public properties, and Albert W. Gotch, city planning engineer.





General view of new Illinois National Guard Armory at Urbana, Ill., is typical of design of 11 new armories built of architectural concrete throughout the state. S. Milton Eichberg, supervising architect. Construction of all armories was by WPA labor.

The Illinois Armories

THIRTEEN new armories for the Illinois National Guard were completed, and most of them occupied by midsummer of 1939. In all of them, concrete is the principal construction material. Eleven of the armories are architectural concrete, while two have reinforced concrete structural frames with enclosing walls of brick and lightweight concrete masonry backup.

The architectural concrete buildings are located at: Elgin, Sycamore, Dixon, Pontiac, Urbana, Champaign, Delavan, Salem, Carbondale, Mt. Vernon and Lawrenceville. The concrete armories with brick facing are at Streator and Waukegan.

When plans were first prepared for the armory building program four years ago, the designs called for steel and brick structures with stone exterior faces, a type of construction in keeping with older armories throughout the state. As the projects developed and construction methods were studied, the availability of reinforced concrete became apparent, particularly since building labor would be supplied almost entirely by the state Work Projects Administration.

Advantages in the use of concrete were these: First, both

structural and architectural features of the buildings could be achieved with one material and with fewer operations; and, second, there was too little skilled labor among the WPA forces to carry on construction of complicated masonry work. At this point the entire program was translated into reinforced concrete, although the plan layouts and architectural features were altered but slightly.

All of the armories built under this program are similar in design and plan. In fact, the one-company plants are identical, with differences arising in the cases of two-company armories and the brick-faced structures which were indicated as "specials".

The central feature of all the armories is the drill hall which in all but a few cases is flanked by 1 and 2-story structures housing offices, classrooms, clubrooms, garages

Typical main entrance of four 1-story pylons of the Lawrenceville armory.



and in some cases stables for horses. For two-company armories, the drill halls are longer, but all are of 90-ft. span.

Framing for the roof of the drill halls is a series of 2-hinged, rigid frame concrete bents. The arch bents were cast two at a time by means of forms supported by a traveling centering stage. Purlins were cast between the two frames and the stage moved forward for the next two frames. Purlins connecting the sets of two frames were later cast in seats formed in the frames for that purpose.

Five of these stages were used for the entire project, being moved from building to building on a schedule which staggered the work so there was no delay in progress on any building. This method of forming the rigid bents proved most economical.

From ground floor to roof of the 1-story sections, was one lift of concrete with a construction joint located in the bent at this point. From roof level to the haunch of the bent, the walls and bent were cast integrally. This satisfied architectural requirements and served to stiffen the frames.

tail of the armories. The upward sweep of the peaked in the end wall of drill hall. This is



Two large precast eagles mounted on massive pylons guard the entrances to all the new armories. The sculpture was designed by WPA art classes which also made the plaster waste molds. This photo taken at Sycamore, Ill.



The wood sheathing for the roof is the only feature of the original design that was not changed to concrete.

Walls of the buildings are 12 to 16 in. thick, depending upon the architectural treatment which incorporated pilasters, reveals and pylons. Interior bearing walls are concrete 6 to 8 in. thick, reinforced with two layers of wire mesh.

Due to the length of the two-company drill halls, expansion joints are employed to separate the hall from the wing structures. These joints are sliding plates.

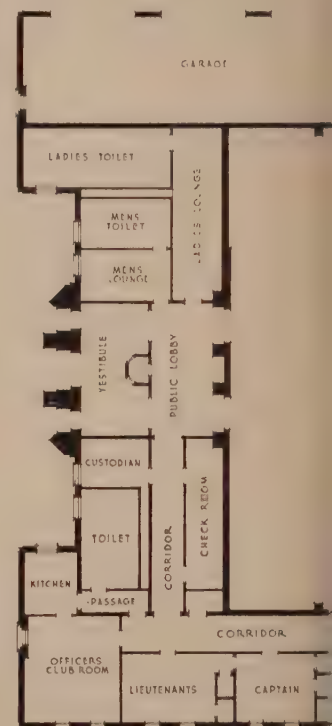
Basements are located under all wing structures and are used as target ranges and storage space. The only basement area under drill halls occurs at the Champaign armory where poor soil made it necessary to carry column footings 15 ft. below ground level. With foundations carried down, it was practicable to excavate and use this space for a



Side entrance to Champaign armory indicates the simple treatment given to the majority of openings in the Illinois armories.

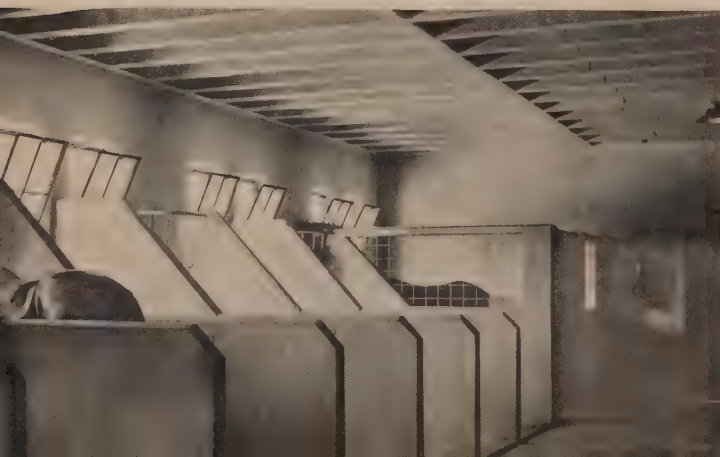


This floor plan typical of all one-company armories.



General view from left front of Pontiac armory is typical of all one-company buildings.

One-story portions of the Urbana armory house cavalry mounts. The stalls are concrete.



garage. The garage is reached by a ramp.

Forms for walls throughout were made of plywood. In most cases concrete was mixed on the site. However, on one job ready-mixed concrete was purchased for part of the work. After forms were stripped, exterior walls were given a rubbed finish. Some of the interior walls were plastered, but in many cases the concrete is left exposed after cleaning.

Distinctive architectural motifs common to most of the armories are two cast concrete eagles mounted on heavy

Roofs of Illinois armory drill halls are supported by 2-hinged rigid frame concrete bents, formed two at a time by means of forms built on traveling stages. This is interior of Dixon armory.



Side view of Elgin armory. Large openings are garage entrances.

Front entrance of Dixon armory differs from other buildings in architectural detail.



pilasters above main entranceways. These sculptured figures are conventionalized designs made by the WPA art project in Chicago. The plaster waste molds were made by WPA workers and brought onto the projects where concrete workers cast the concrete and erected the figures in place.

Estimated cost of the one-company armories is \$100,000 with somewhat higher figures for special designs.

As the photographs of eight of these armories reveal, they are a uniformly fine group of structures—a credit to the Illinois National Guard units for which they were built.



New Church in Canada

FIRESAFETY and economical construction to accommodate 500 worshippers were the major requirements set up for St. Peter's Catholic Church, New Westminster, B.C. Architectural concrete was chosen as the construction material to meet these requirements and a simple, modernized mission style was adopted for the design, eliminating unnecessary details for economy.

Walls are 9 to 12 in. thick depending upon architectural features. Excellence of form construction and concrete placing resulted in exposed surfaces that required no patching or rubbing. Twizell & Twizell, architects of Vancouver, were the designers; John Greenall & Sons handled the entire contract at a cost of \$25,500. Dedication was Easter Sunday of this year.

Coca Cola Builds in Waco

By T. Brooks Pearson, Architect

SATISFACTION with the appearance and performance of architectural concrete buildings erected in Los Angeles and Pasadena, Calif., in 1936, was the principal reason for building the new Coca Cola Bottling plant in Waco, Texas, of architectural concrete in 1939. The owners of the Coca Cola franchise in California also own the franchise in Waco, and the requirements for the new building were the same as those of the previous structures. It was felt, therefore, that success of the first buildings (Pasadena plant—ARCHITECTURAL CONCRETE, Vol. 3, No. 2, page 30) promised another.

The Waco Coca Cola Bottling Co. had outgrown its plant in the industrial district and there was definite need for room in which to expand over the next 20 years. A large new location was chosen on a conspicuous corner at

the edge of the retail district, for past experience of the owners has proved the value of a prominent location for a bottling plant since all operations can be done before the eyes of the public with great advantages in advertising and good will.

Along with prominent location, a structure of attractive architecture and neat, clean appearance was a major requirement—and architectural concrete, which lends itself so readily to clean-cut modern lines, and is easy to keep clean and sanitary, was the logical choice as the architectural and structural material.

The building is concrete from the footings, which reach down to solid rock, to the slab and beam roof. It occupies ground space of 100x165 ft., is two stories high with provision for construction of a third story when that becomes necessary. The building is designed for lateral forces according to earthquake standards used in California.

In design it suggests somewhat the previous structure built at Pasadena, for it has the same simple outlines, a modification of the same modest detail, and a slightly green cast to the white painted exterior.

Forms for the smooth exterior wall surfaces were 8x2-ft. panels of $\frac{3}{4}$ -in. plywood arranged with the joints stag-

Coca Cola this summer was being bottled in full public view in this new broad-windowed plant at Waco, Texas. Advertising and good will were aims of the architect, Robert V. Derrah, of Beverly Hills, Calif., and T. Brooks Pearson, associate architect of Waco. The building was constructed of architectural concrete by C. C. Ramsey, Waco contractor.





Access to second-floor storage and warehouse space is made easy for Coca Cola trucks by means of long concrete ramps.

gered. To assure the desired pattern of the panels and good workmanship, the forms were fully detailed and approved by the architect before any construction was started. This also proved to be a measure of economy since it eliminated trial and error on the job.

Concrete was thoroughly puddled and mechanical vibration was applied to the outside of the forms to insure thorough compaction and dense walls. The use of external vibration aids materially in securing the desired quality of exterior surface as it seems to bring just enough of the fine material in the mix to the surface for a good finish. Over

vibration, of course, must be avoided and it was found that a light chipping hammer type of vibrator which is moved about as the concrete is placed gives best results.

For the entire structure only six waste molds were used. The molds cost \$85 and were used but one time.

After forms were stripped the entire wall surface was given a light carborundum rubbing to remove any traces of oil or slick spots that might have interfered with the paint bond. Two coats of white paint to which a small quantity of green was added were applied as the final finish. The green-topped concrete walks around the building combined with the light green of the walls produce a color effect as refreshing as the product bottled within the building.

Large plate glass windows around the main corner permit the public to observe bottling operations at all times.

For convenience in transportation, an inside concrete truck ramp leads from the front of the building up to the second floor, which is used as a warehouse and delivery dispatch room.

The Waco building was designed by Robert V. Derrah, architect of Beverly Hills, Calif., who has done several other projects for Coca Cola, including the Pasadena building. Ralph E. Marvin, Los Angeles, was structural engineer, and the writer was associate architect and resident supervisor. The structure was erected at a cost of \$70,000 by C. C. Ramsey, Waco contractor.

School for Fontana, Wis.

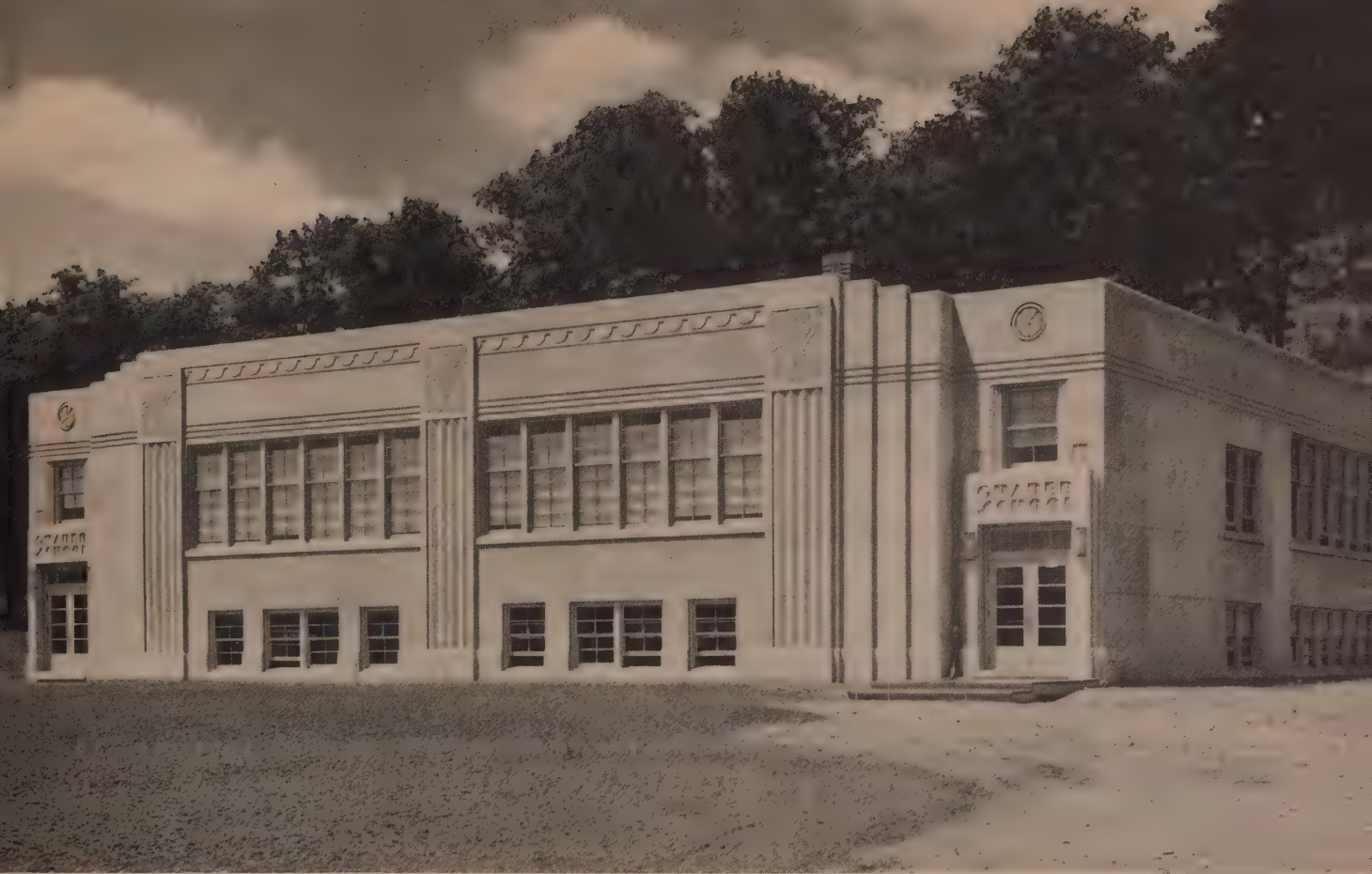
By J. MANDOR MATSON, ARCHITECT

WHEN plans for a new school were considered for Fontana, Wis., to replace an old wooden structure that had been condemned as a firetrap, architectural concrete came to my mind as the medium best suited to the requirements of firesafety, beauty and long life. I had used concrete successfully many years for foundations, floors, roofs and spandrels, so it was but a natural step to walls of concrete.

Old bugaboo stories about the impermanence of concrete in northern climates were expelled from my mind by observing the performance of exposed foundations, bridges, dams and retaining walls. Public acceptance, however, of an architect's ideas is another problem—especially when these ideas incorporate new developments. At a special meeting

Sharply molded detail characterizes the design of Wisconsin's first architectural concrete school building at Fontana on Lake Geneva.





The Fontana school replaces an old frame structure condemned as a fire hazard. Forms were plywood with milled wood and plaster molds for detail. J. Mandor Matson was the architect; New London Construction Co. built it for a price of \$51,511.

of the school district details of the proposed school were explained, and the assembled taxpayers unanimously voted to build a reinforced concrete school.

This meant going ahead with the first architectural concrete school in Wisconsin. While I had seen many architectural concrete structures throughout the Middle West, this job gave me the thrill of a pioneer opening up a new field—and such it was in the school architecture of my state.

Fontana school is located against a backdrop of green hillsides and overlooks Lake Geneva. The school is 102x73 ft. over-all, and includes four classrooms, manual and domestic art rooms and a large basement playroom that will accommodate P.T.A. and other social functions.

From foundations to roof the structure is reinforced concrete. Three fluted pilasters on the main facade form the principal ornamental detail. Banding and rustication were used sparingly to maintain simplicity.

Structural plywood of $\frac{3}{4}$ -in. thickness was used to form exterior walls. This was supported by 2x4 studs spaced 12 in. apart, with plywood joints buttered with a mixture of tallow and portland cement to insure tight forms. Milled wood strips were used for the fluting and plaster waste molds for medallions and pilaster caps. Projecting sills were

cast after spandrels were completed.

Horizontal construction joints were specified at the top and bottom of window sills to minimize effect of shrinkage at corners of openings where extra steel was also used. The first floor slab was placed with the wall between basement and first floor windows to eliminate a cold joint at first floor level. Roof slab and coping were placed together for the same reason.

Local washed sand and gravel were used in a mix of 1:2.6:3.7 with a maximum of 6 gal. water per sack of portland cement. All exterior walls were backed up with 4-in. lightweight masonry units, furred out and plastered.

Exterior walls were cleaned down by applying cement grout which was rubbed into the small pits and air holes with a wood float and then cut with a trowel. All traces of grout were removed by rubbing with an empty cement sack. This treatment removed stains and discoloration and provided a pleasing finished wall without painting.

The New London Construction Co. built the structure at a contract price of \$51,511. This was their first architectural concrete job but, with careful attention to forming, a splendid job resulted that required little patching. The cube cost of the building was 26½ cents.

Aquatic Park— San Francisco

BY WILLIAM MOOSER II, ARCHITECT

AQUATIC Park, located on San Francisco Bay shore just inside the Golden Gate, is formed by an almost circular breakwater enclosing a small body of water. It is devoted to athletic water sports.

This spot on the water's edge is closely linked to the history of the city for as long as 90 years ago it was used as a bathing place by the early inhabitants of San Francisco. For many years boat clubs held their water carnivals there, and housed their boats in very unpretentious wooden buildings.

The city of San Francisco for years had planned to make this man-made harbor a playground for citizens interested in water sports. Some years ago the city constructed a curved pier and baffle about 1,500 ft. in length and 60 ft. wide to protect the harbor. This pier, supported on concrete piles with a concrete deck, was designed by John M. Punnett, civil engineer and long-time yachtsman, and was the real beginning of what is now a bathing and water sports park.

Extensive plans for development of the park, however, lagged for years until WPA assistance made the dream come true, and the modern concrete park buildings were erected this year.

The main building, designed to represent a boat at the

water's edge, is a long, streamlined structure with rounded ends and setback third story and penthouse. Wide horizontal openings and handrails at third and fourth floor levels complete the illusion of a large, white modern vessel. The penthouse is, of course, the "funnel". The building proper is 54x257 ft. with first and second stories occupying the full dimensions. The setbacks of the third and fourth floors produce the fore and aft decks.

First floor is used for dressing rooms, dry-rooms and lavatories. On this floor are also lunch counters, boiler



Water sport events are announced from concrete towers housing a public address system.

A boat-shaped concrete building is the center of San Francisco's new Aquatic Park development. It houses restaurants and lounges and opens onto dressing rooms under the bleachers at each end. Construction of the several concrete buildings was by WPA labor.



Rounder, smoother, and handrails give the building the appearance of a boat at the edge of the main hall.

room and emergency hospital. The main room on the second floor is a large lounge with wall murals depicting the "Lost City of Atlantis under the Sea". An open loggia faces the bay. The murals which adorn the entire length and height of the wall in this loggia, are done in tile—an unusual piece of work for this country. Two circular rooms occupy the ends of this floor and are occupied by a restaurant and a women's lounge.

The entire third floor room is devoted to banquets and dinners with exits giving onto a promenade deck facing the bay. The penthouse is a circular room used for observation purposes.

Connected with the ends of the building are two dressing room wings, the one for men being 54x180 ft., and the women's wing, 54x134 ft. Over these rooms are bleachers for spectators. At some distance from each bleacher wing are tall, 30-ft. structures used as loud speakers to announce games and broadcast radio entertainment.

Within the layout are also three independent structures used as comfort stations. On the roof of each is an observation tower for lifeguards and lookouts.

All of the buildings erected under the current program are entirely of reinforced concrete. The walls have a smooth portland cement stucco finish painted with white cement paint. The project, including all buildings, walks, and gardens, extends for about three city blocks in length.

General plans for grounds and layout were made by

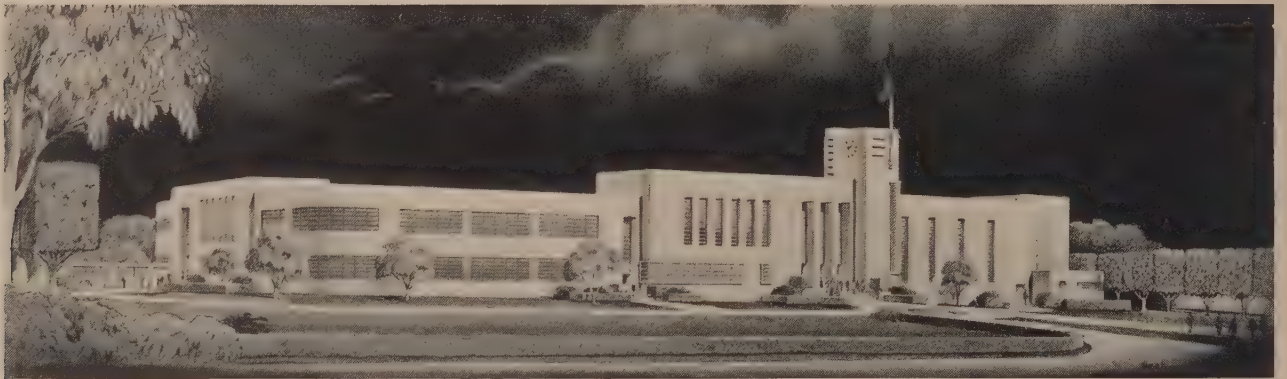


Rest rooms are concrete with a wave motif molded at the top of circular walls.

John M. Punnett. The buildings were designed by William Mooser III, architect, who later became director of works for the WPA in San Francisco. The project was completed according to plans and specifications prepared by the writer and all construction was supervised by him under John M. Punnett, engineer for the Park Commission of San Francisco, sponsor of the project. All work was done by WPA labor.

Cost of the project is approximately \$1,250,000.

Plain architectural concrete streamline design.



Senior high school (above) and (below) gymnasium and shop building, Bartlesville, Okla., were designed by John Duncan Forsyth, architect of Tulsa. Arthur Dorman, associate architect; W. C. Roads, engineer. Both buildings under construction by C. M. Dunning Construction Co., Oklahoma City. Concrete was selected as result of alternate bids.

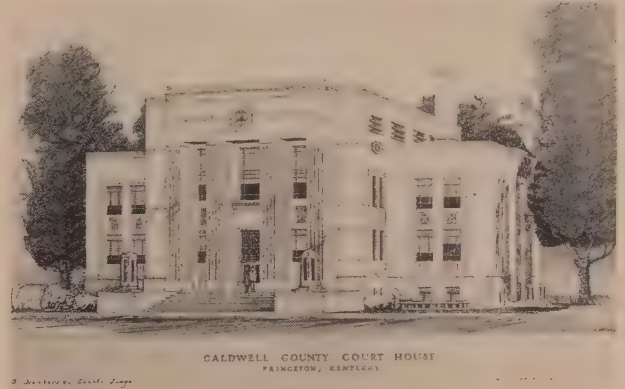




J. J. Bendik, Uniontown, Pa., was given the contract for new high school at Frostburg, Md. R. Holt Hitchins, architect, Cumberland, Md.



Virtually completed is Ninth Ward High School, New Orleans. E. A. Christy, architect; R. P. Farnsworth & Co., contractor.



Nearing completion is Caldwell County Courthouse, Princeton, Ky., a WPA project designed by Lawrence Casner, architect.



Lincoln Grade School, Iola, Kan., one of two new concrete schools designed by Lorentz Schmidt, architect of Wichita. Huff Construction Co., contractor.



North facade of Iberia Parish Courthouse, New Iberia, La. Designed by N. W. Overstreet and A. Hays Town, architects, Jackson, Miss. Now under construction by Gravier & Harper, contractor, Alexandria, La.



Favorite winter sport at Luverne, Iowa, is basketball. To make this sport available to more spectators, a new gymnasium was built to seat 500. Designed by Thorwald Thorson, architect, Paul A. Rossiter was engineer, and WPA labor did the construction work.

Gymnasium for Luverne, Iowa

BY PAUL A. ROSSITER*

IN Luverne, a little town of about 600 people lying in the midst of some of Iowa's finest farm lands, the favorite winter sport is basketball. However, before March, 1938, facilities for watching this fast and fascinating game were so cramped that but a handful of citizen-fans could watch the games which were held in an old frame building. Federal aid through the Work Projects Administration was made available, and the school board took advantage of the opportunity to build a combination auditorium and gymnasium.

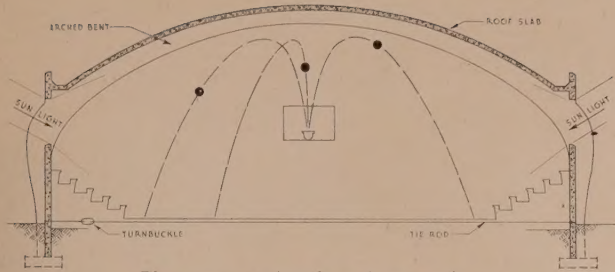
The problem confronting the architect, Thorwald Thorson, was, among other things, to design a firesafe structure capable of seating 500 people during a game, with a playing floor 38x70 ft., a stage 18 ft. deep, and boys' and girls' shower and locker rooms. The cost to the school

*Structural Engineer for Thorwald Thorson, architect.

board was limited to \$16,000 and to WPA to \$21,000 including plumbing, heating, electrical work and fees. The unit cost was 25 cents per cu.ft. for everything which is considered very reasonable for a completely firesafe and low maintenance cost building.

Final solution was selection of architectural concrete for the walls because it is so adaptable to WPA labor, and a structural design for the roof, using reinforced concrete arched bents shown in an accompanying illustration, which provided ample clearance and economical construction.

As shown in the sketch a certain clearance of the roof framing is required to play basketball, space around the floor is needed to seat spectators and light must be admitted high enough around the room to provide daylight for practice. By supporting the roof on arched bents, tied by steel rods just below the floor, all of the foregoing re-



Transverse section through gymnasium.

quirements were easily satisfied. Clear span is 60 ft., with the height at the crown 23 ft. 6 in. The bents, spaced 16 ft. apart, vary in section from 18x20 in. at the floor, to 18x45 in. at the haunch, decreasing to 18x25 in. at the crown. The concrete roof slab is 4 in. thick. By using a hingeless arch, cost of hinges was eliminated and a more rigid structure was obtained. By making the frame approach a parabola as nearly as possible, the bending moment at center and ends was decreased, thereby reducing the cross section of the frame.

Exterior forms were $\frac{5}{8}$ -in. plywood. Inside forms were 6-in. boards made into 2x8-ft. panels from flooring and siding taken from the old wood structure. Creosoted nailing strips were fastened to the face of the inside forms so that 1x2-in. horizontal furring strips could be attached. A vapor seal of Sisalkraft was tacked over the furring strips and then the plywood used for exterior forms was applied over the Sisalkraft and given a finish. This is tantamount to "eating your cake and having it", while providing an economical insulation and interior finish.

For the ceiling, $\frac{3}{4}$ -in. insulation tile board was nailed to $\frac{3}{4}$ -in. boards over furring strips. A vapor seal of Sisalkraft was applied between the boards and insulation.

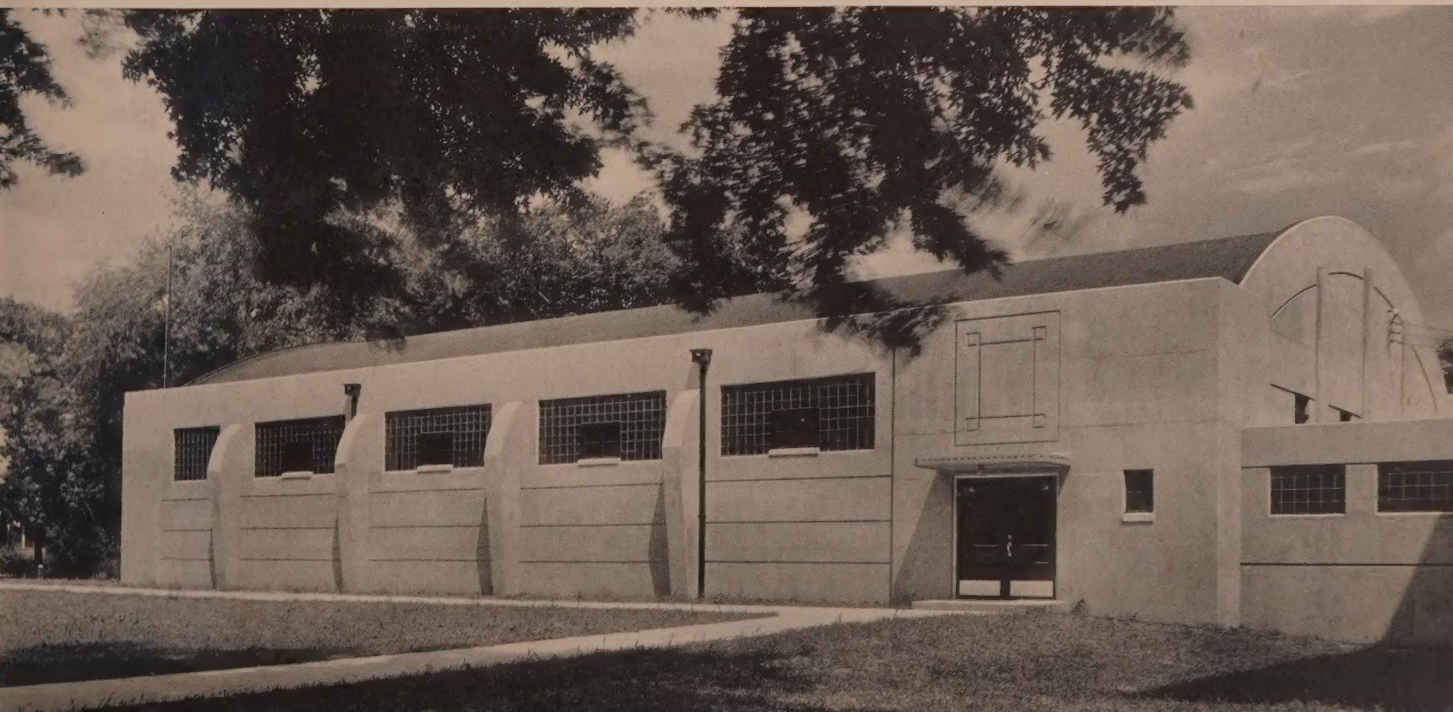
Where arch bents intersect exterior walls they produce interesting fin-like pilasters. The high, glass-brick windows provide illumination for practice during daylight hours.



The roof is supported by hingeless arch bents. Roof slab is reinforced concrete lined with insulation board.

Uniform color was given the exterior surface of the walls by floating a grout of creamy consistency made of 1 part white portland cement, 2 parts grey portland cement and 6 parts sand, on a well-dampened wall. After the grout had hardened a little it was scraped off with a trowel and the last traces of the grout on the surface were removed by rubbing with coarse burlap. The walls were then kept damp for 36 hours or more to thoroughly harden the grout left in small pits and air bubble holes.

Thanks must be given to Mr. Ed Dehnert, who resigned from the school board to take charge of construction. The unusually fine work done on this building proves that it is possible to make good mechanics out of WPA labor by careful instruction and supervision. Credit must also be given the engineering department of WPA for close co-operation with the architect and engineer.





Two classroom buildings and a gymnasium-auditorium comprise the new centralized school at Dutchtown, Ascension Parish, La. Bodman and Murrell, Baton Rouge, were architects for all three Ascension Parish schools. George P. Rice was engineer, and all construction was carried on by WPA labor.

Three Schools for Ascension Parish, La.

By JOSEPH D. HUDDLESTON*

HUNDREDS of school children in the rural northern section of Ascension Parish, La., returned to classes this fall in three new architectural concrete school plants. The new schools are located in the communities of Dutchtown,

St. Amant and Gonzales which, for the first time have firesafe facilities for their children.

The widespread parish school program started in 1936 when fire destroyed a 40-year-old frame school building at Dutchtown and new facilities were immediately required. Financed jointly by the Parish School Board and the Work Projects Administration, the work has been carried on rapidly at all three sites by WPA labor crews recruited from the parish.

The design of the Dutchtown school and subsequently those of the St. Amant and Gonzales plants, were made by Bodman and Murrell, architects of Baton Rouge. Structural engineer for all of them was George P. Rice of New Orleans.

Concrete for these projects, as has also been proved elsewhere, was a most fortunate material for construction. It not only utilized available local materials, but enabled labor forces to be organized from among a group of men

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Grade school building and auditorium at Dutchtown.

who had previously been engaged exclusively in farming, and whose construction experience had probably never exceeded mending the back steps or building a chicken coop.

Under skilled foremen, these men started construction of the Dutchtown school, and by the time this project was completed they were competent concrete builders. With the experience gained on the first project, the crews were moved over to St. Amant, and at the conclusion of the first part of that project, which included a grammar school and a high school unit, they started work on the addition to the Gonzales School. Construction started just before school opened on a combination gymnasium and auditorium at St. Amant.

The Dutchtown and St. Amant schools are quite similar in design. Both comprise plants of three units: grammar school, high school and gymnasium. In each case the layout is in the shape of a large U with the classroom units consisting of L-shaped structures flanking the auditorium-gymnasium. Each classroom unit is 183 ft. on the long side of the L, and 126 ft. on the short side. They are 60 ft. wide

and one story high. The auditorium unit at Dutchtown is 117x60 ft., and the same unit at St. Amant is 92x54 ft.

The Gonzales building is different in design because it is an addition to an existing masonry structure. It is U-shaped in plan and comprises an auditorium and 2-story high school. The classroom portion has five rooms on the ground floor and eight on the second floor. The auditorium, which will also be used for athletic events, is 58x108 ft.

Except for the frame roofs covered with cement-asbestos shingles, the buildings are all reinforced concrete including footings, floors and walls. The walls were cast in metal forms which were used on all three projects.

Aside from a thorough cleaning, the exterior wall surfaces were left as they came from the forms. Careful attention to handling the concrete in the forms eliminated any extensive patching to achieve desirable wall textures. Inside walls of all buildings were finished with plaster, and hardwood floors were placed over the concrete subfloors.

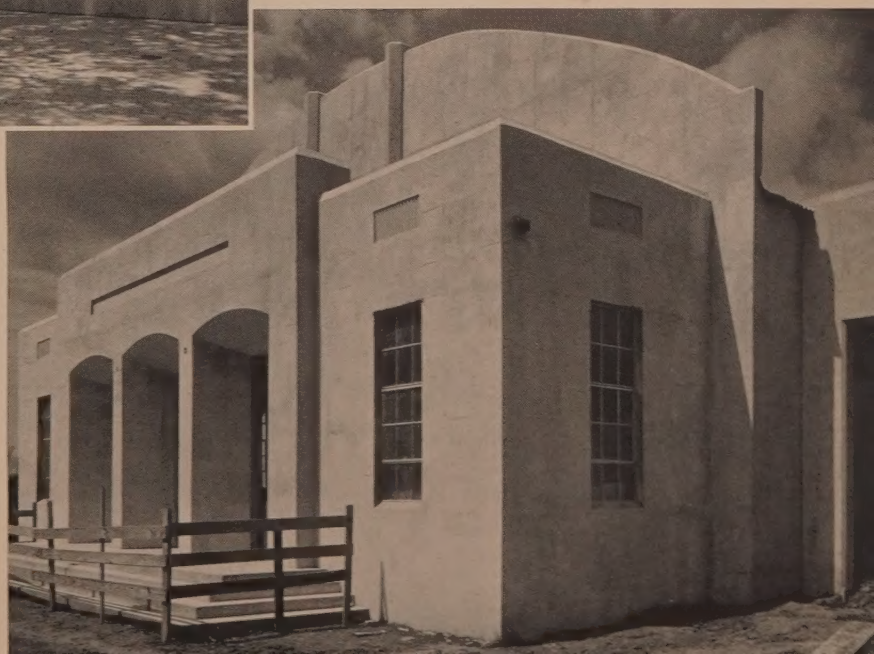
The three school plants, erected at a total cost of approximately \$450,000, provide the most modern educational facilities for hundreds of children throughout the county. They also provide community social centers which had been entirely lacking before.

Appropriate dedication ceremonies held at the opening of each school, were occasions for community homecoming celebrations. Attending these gatherings were the men who did much in carrying on the building program—C. E. Dixon, president of Ascension Parish School Board; Larry J. Babin, parish school superintendent; Dr. T. H. Harris, state superintendent of education, and various officials of the Work Projects Administration.



A spreading, moss-hung tree shelters a paved play area at the new central school at St. Amant, La.

Completed in time for school this September was the new auditorium and elementary school building at Gonzales, La.



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